

**AMENDMENT TO THE CLAIMS**

Please amend the claims as follows. This listing of claims will replace all prior versions and listings of claims in the application.

1. (Withdrawn) A method of treatment or prophylaxis of a disease state or a condition in an organism, the method comprising:

generating electromagnetic field having a magnetic flux density from about  $5 \times 10^{-6}$  gauss to about  $1 \times 10^{-12}$  gauss and a frequency of between zero and about 140 Hertz, wherein the electromagnetic radiation is applied therapeutically to treat or prevent cardiac diseases and conditions; and

subjecting an organism having a diseased state or condition which is at least one of irregular heart rate, elevated blood pressure, cardiovascular failure, cancer, cataracts, immunological conditions, blood clots, atrial fibrillation, ventricular fibrillation, atrioventricular blockage, diseased heart valves, enlarged heart, circulatory blockage, coronary insufficiencies, and ischemia, to the electromagnetic field.

2. (Withdrawn) The method of claim 1, further comprising:

calculating the appropriate magnetic flux density using the formula  $mc^2 = Bvlq$ , wherein

$m$  equals a mass of one or more targets;

$c$  equals the speed of light;

$v$  equals the inertial velocity of said mass;

$l$  equals the length of the organism or cell to which the field will be applied; and

$q$  equals unity of charge, to thereby determine a magnetic flux density ( $B$ ).

3. (Withdrawn) The method of claim 1, further comprising administering the electromagnetic field at a location relative to the organism for affecting the autonomic nervous system thereof.

4. (Withdrawn) The method of claim 1, further comprising administering the electromagnetic fields in a range between about  $10^{-12}$  to about 3.5 and a frequency between about 0 to about 28 Hertz at a location and relative to the organism to affect the parasympathetic nervous system thereof.
5. (Withdrawn) The method of claim 1, wherein the electromagnetic field is administered in a range between about  $7.5 \times 10^{-8}$  to about  $1 \times 10^{-6}$  gauss at a frequency from about 0 to about 28 Hertz to affect the sympathetic nervous system.
6. (Withdrawn) The method of claim 1, wherein said subjecting the organism to electromagnetic fields further comprises:

placing the organism inside an external apparatus for generating the electromagnetic field.
7. (Withdrawn) The method of claim 1, wherein said subjecting the organism to electromagnetic fields further comprises:

implanting a device for generating the electromagnetic field in the organism, wherein the apparatus is implanted in proximity to an organ to which the treatment is targeted.
8. (Withdrawn) A method of treatment or prophylaxis of a disease state or a condition in an organism, the method comprising:

generating electromagnetic fields having a magnetic flux density from about  $5 \times 10^{-6}$  gauss to about  $1 \times 10^{-12}$  gauss and a frequency of between zero and about 140 Hertz, wherein the electromagnetic fields is applied therapeutically to treat or prevent cardiac diseases and conditions; and

subjecting the organism to the electromagnetic fields.

9. (Withdrawn) A device for invasively administering an electromagnetic field in an organism, comprising:
  - at least one inductor for emitting electromagnetic fields having a magnetic flux density from about  $5 \times 10^{-6}$  gauss to about  $1 \times 10^{-12}$  gauss and a frequency between 0 and 140 Hertz; and
  - a means for implanting said inductor in the organism.
10. (Withdrawn) The device according to claim 9, wherein said inductor comprises at least one of a Helmholtz coil, a solenoid coil, and a saddle coil.
11. (Withdrawn) The device according to claim 9, wherein said means for implanting is a catheter operatively connected to said inductor, wherein said inductor is contained within said catheter.
12. (Withdrawn) The device according to claim 9, wherein said means for implanting is a stent.
13. (Withdrawn) The device according to claim 11, further comprising:
  - a first wire operatively connected to a first end of said inductor;
  - a second wire operatively connected to a second end of said inductor; and
  - an attenuator operatively connected to said first wire and said second wire;

and

a signal generator operatively connected to said attenuator for generating a signal through said inductor.
14. (Withdrawn) The device according to claim 13, wherein said attenuator and said signal generator are not implanted in the organism.
15. (Withdrawn) The device according to claim 13, further comprising:

a balloon attached to a first end of said catheter, wherein said balloon is inflatable and deflatable in response to fluid pressure within said catheter tube; wherein said inductor is located within said balloon.

16. (Withdrawn) The device according to claim 13, wherein said inductor expands and contracts correspondingly with the balloon inflation and deflation.
17. (Currently amended) A device for stimulating organ operation in an organism, comprising:  
a first solenoid coil for emitting electromagnetic fields having a magnetic flux density from about  $5 \times 10^{-6}$  gauss to about  $1 \times 10^{-12}$  gauss and a frequency between 0 and 140 Hertz;  
a capacitor operatively connected to said solenoid;  
a means for implanting said solenoid and said capacitor in the organism; and  
a means for inducing an electric current in said first solenoid, wherein said means for inducing further comprises: a catheter removably insertable into said first solenoid coil; a second solenoid coil attached to said catheter and removeably insertable into said first solenoid coil; and a means for generating an electric current through said second solenoid coil whereby the an electric current is induced in said first solenoid coil such that the first solenoid coil emits an electromagnetic field having a magnetic flux density from about  $5 \times 10^{-6}$  gauss to about  $1 \times 10^{-12}$  gauss and a frequency between 0 and 140 Hertz.
18. (Original) The device of claim 17 wherein said means for implanting is a stent.
19. (Canceled)
20. (Previously presented) The device of claim 17, wherein said means for generating further comprises:  
a first wire attached to a first end of said second solenoid coil;  
a second wire attached to a second end of said second solenoid coil;

an attenuator operatively connected to said first and second wires; and  
a signal generator operatively connected to said attenuator and said first and  
second wires, wherein said signal generator and said attenuator are not  
implanted into the organism.

21. (Canceled)
22. (Currently amended) A device for stimulating organ operation in an organism, comprising:  
a first solenoid coil for emitting electromagnetic fields having a magnetic flux density from about  $5 \times 10^{-6}$  gauss to about  $1 \times 10^{-12}$  gauss and a frequency between 0 and 140 Hertz;  
a capacitor operatively connected to said solenoid;  
a means for implanting said solenoid and said capacitor in the organism; and  
a means for inducing an electric current in said first solenoid, wherein said means for inducing an electric current is an electromagnetic field generator ~~is external to the organism~~,  
comprises[[::]] a second solenoid coil or a Helmholtz coil ~~external to the organism~~,  
wherein the organism in which said first solenoid has been implanted is placed inside of said external coil such that a current is induced in said first solenoid coil;  
an attenuator operatively connected to said external coil; and  
a signal generator operatively connected to said attenuator.
23. (Canceled)
24. (New) The device of claim 17, wherein the frequency ranges from 0 to 28 Hz.
25. (New) The device of claim 17, wherein the electromagnetic field is in a range between about  $2 \times 10^{-8}$  gauss to about  $3.8 \times 10^{-8}$  gauss to affect the parasympathetic nervous system of the organism.

26. (New) The device of claim 25, wherein the frequency is in a range between 0.56 Hz to 1.064 Hz.
27. (New) The device of claim 17, wherein the electromagnetic field is administered in a range between about  $2.8 \times 10^{-8}$  to about  $3.4 \times 10^{-8}$  gauss to affect the parasympathetic nervous system.
28. (New) The device of claim 27, wherein the frequency is in a range between 0.854 Hz to 0.952 Hz.
29. (New) The device of claim 17, wherein the electromagnetic field is administered in a range between about  $7.5 \times 10^{-8}$  to about  $1 \times 10^{-6}$  gauss to affect the sympathetic nervous system.
30. (New) The device of claim 29, wherein the frequency is in a range between 2.10 to 28 Hz.
31. (New) The device of claim 22, wherein the frequency ranges from 0 to 28 Hz.
32. (New) The device of claim 31, wherein the electromagnetic field is in a range between about  $2 \times 10^{-8}$  gauss to about  $3.8 \times 10^{-8}$  gauss to affect the parasympathetic nervous system of the organism.
33. (New) The device of claim 32, wherein the frequency is in a range between 0.56 Hz to 1.064 Hz.
34. (New) The device of claim 22, wherein the electromagnetic field is administered in a range between about  $2.8 \times 10^{-8}$  to about  $3.4 \times 10^{-8}$  gauss to affect the parasympathetic nervous system.

35. (New) The device of claim 34, wherein the frequency is in a range between 0.854 Hz to 0.952 Hz.
36. (New) The device of claim 22, wherein the electromagnetic field is administered in a range between about  $7.5 \times 10^{-8}$  to about  $1 \times 10^{-6}$  gauss to affect the sympathetic nervous system.
37. (New) The device of claim 36, wherein the frequency is in a range between 2.10 to 28 Hz.